



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,562	02/26/2002	Srikanth Gummadi	TI-33211AA	1260
23494	7590	05/02/2006	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED			CORRIELUS, JEAN B	
P O BOX 655474, M/S 3999			ART UNIT	
DALLAS, TX 75265			PAPER NUMBER	
			2611	

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,562

Applicant(s)

GUMMADI ET AL

Examiner

Jean B Corielus

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/22/06 has been entered.

Claim Objections

2. The objection to claims 1-19 has been withdrawn.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites "the correlation" in line 1. However, it is unclear whether such limitation refers to the "correlation results" or the "correlation value". Same comment applies to claims 6 and 7.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-10 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of copending Application No. 09/996,197. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of the application differs only from claim 1 of the co-pending application by the wording of the preamble. However, the body of both claims is the same. Given that, it would have been obvious to one skill in the art to present the claim of the application as a variation of the claim of the co-pending application as such modification would have only provided an alternate way to word the preamble.

As per claim 2, it would have been obvious to one skill in the art to provide the sample values as a recently received digital sample value in order to satisfy system requirements.

As per claim 3, it would have been obvious to one skill in the art to generate the stream of digital sample values by periodically sampling the communications channel and the reason to do so would have been the same as provided above in reference to claim 2.

As per claim 4, it would have been obvious to one skill in the art to provide the sample values as a recently sample value and the reason to do so would have been the same as provided above in reference to claim 2.

As per claim 5, it would have been obvious to one skill in the art to set the correlation as a multi-value correlation and the reason to do so would have been the same as provided above in reference to claim 2.

As per claim 6, see claim 5.

As per claim 7, it would have been obvious to one skill in the art to set the correlation as a three -value correlation and the reason to do so would have been the same as provided above in reference to claim 2.

Claim 8 is the same as claim 2 of the copending application. The same analysis applies.

Claim 9 is the same as claim 3 of the copending application. The same analysis applies.

Claim 10 is the same as claim 4 of the copending application. The same analysis applies.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Art Unit: 2611

7. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

8. Applicant is advised that should claim 5 be found allowable, claim 6 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1- 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art figs. 1-6 in view of Radi US Patent No. 6,594,327.

As per claim 1, applicant background of the invention and admitted prior art figs. 1-6 disclose a method and apparatus (fig. 6) comprising receiving the stream of digital sample values fig. 2; correlating a digital sample value with a plurality of received digital sample values 610 to generate a corresponding plurality of correlation results 615; calculating a correlation value (output of adder 620) from corresponding plurality of correlation results 615 using adder 620; comparing the correlation value against a threshold, and determining the presence of the boundary based on the comparison see page 2, line 29-page 3, line 2. However, the admitted prior art figure 6 does not explicitly teach "a single digital value" is correlated with the plurality of received digital sample values. In the same field of endeavor, Radi teaches the step of correlating in correlator 504 "a single digital value" output by 512 a plurality of received digital sample values output of buffer 502. See col. 9, lines 61-65. Given that fact, it would have been obvious to one skill in the art to modify applicant's admitted prior art figure 6 in the manner taught by Radi so as to improve system configuration and/or performance.

As per claim 2, the digital sample value is a recently received digital sample value see page 14, lines 13-15.

As per claim 3, it is well known in the art in order to generate digital samples it is necessary to periodically sampling the communications channel. Given that fact, it would have been obvious to one skill in the art to configure applicant's background of the invention in such a way to sample the communication channel in order to recover the original signal.

As per claim 4, it would have been obvious to one skill in the art to receive a recently sampled value as the digital sample value so as to satisfy processing requirements of the system.

As per claims 5-7, it would have been obvious to one skill in the art to represent the correlation as a multivalue correlation / a two value correlation / a three value correlation and the reason to do so would have been the same as provided above in reference to claim 4 above.

As per claim 8, the plurality of received digital sample values are selected from the received stream based on their position in different periods of a periodic sequence see fig. 6.

11. Claims 11 and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art figs. 1-6 in view of Radi US Patent No. 6,594,327 and further in view of Okanoue et al US Patent No. 6,738,439.

As per claim 11, Applicant background of the invention and admitted prior art figs. 1-6 disclose a method and apparatus (fig. 6) comprising receiving the stream of digital sample values fig. 2., correlating a digital sample value with a plurality of received digital sample values 610 to generate a corresponding plurality of correlation results 615; calculating a correlation value (output of adder 620) from corresponding plurality of correlation results 615 using adder 620, comparing the correlation value against a threshold, and determining the presence of the boundary based on the comparison see page 2, line 29-page 3, line 2. However, applicant's admitted prior art does not teach the further limitation of determining the presence of the "packet boundary" based on the

Art Unit: 2611

comparison it only teaches determining the presence of the boundary based on the comparison see page 2, line 29-page 3, line 2 it also fails to explicitly teach "a single digital value" is correlated with a plurality of received digital sample values. In the same field of endeavor, Radi teaches the step of correlating in correlator 504 "a single digital value" output by 512 a plurality of received digital sample values output of buffer 502. See col. 9, lines 61-65. Given that fact, it would have been obvious to one skill in the art to modify applicant's admitted prior art figure 6 in the manner taught by Radi so as to improve system configuration and/or performance. In addition, Okanou et al teaches the further limitation of determining the presence of the packet boundary based on the comparison see col. 1, lines 32-38. Given that, it would have been obvious to one skill in the art to incorporate such a teaching in applicant's background of the invention and Radi so as to enhanced signal detection.

As per claim 15, the received stream is stored in memory see page 13, lines 13-15, and the plurality of received digital sample values', generating a one value for each time the digital sample value matches with one of the digital sample values in the plurality', and generating a zero value for each time the digital sample value does not match with one of the digital sample values in the plurality see page 14, lines 10-13.

As per claim 16, the calculating step comprises 2 summing up a correlation result resulting from each correlation of the digital sample value with the plurality of previously received digital sample values see adder 620.

As per claim 17, applicant's background of the invention further teaches that the correlating and calculating steps are performed more than once and an average

correlation value is determined and compared against a threshold. See page 15, lines 9-11.

As per claim 18, it would have been obvious to one skill in the art to perform packet detection after each digital sample value is received so as to satisfy processing requirements of the system.

As per claim 19, it would have been obvious to one skill in the art to perform packet detection after a specified number of digital sample values is received and the reason to do so would have been the same as provided above in reference to claim 18.

12. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art figs. 1-6 in view of Radi US Patent No. 6,594,327 and further in view of Okanou et al US Patent No. 6,738,439 and further in view of Lee US Patent Application Publication No. US2001/0005378A1.

As per claim 12, as applied to claim 11 above, Applicant's admitted prior art Radi and Okanou teach every feature of the claimed invention but do not explicitly teach the further limitation of "wherein the packet is transmitted over a previously idle communication channel". In the same field of endeavor, Lee teaches the transmission of a packet over a previously idle communication channel see paragraph 0012. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in applicant's admitted prior art Radi and Okanou in order to avoid data lost.

As per claim 13, it is well known in the art in order to generate digital samples it is necessary to periodically sampling the communications channel. Given that fact, it

would have been obvious to one skill in the art to configure applicant's background of the invention in such a way to sample the communication channel in order to recover the original signal.

As per claim 14, it would have been obvious that the digital sample of the idle communications channel would have been different in value from a digital sample of the communication channel transmitting the packets as the idle communication channel includes no real data as opposed to the communication channel that includes real data.

Response to Arguments

13. Applicant's arguments filed on 3/22/06 have been fully considered but they are not persuasive. It is alleged that the cited reference does not calculate a correlation value from the plurality of correlation results. However it is noted that such limitation is taught by the admitted prior art fig. 6 in with a plurality of correlation results 615 are combined in combiner 620 to generate a correlation value (output of combiner 620).

Conclusion

14 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Maxi-Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jean B Cornelius

Primary Examiner

Art Unit 2611

4-28-06